REMARKS

Claims 9-17 are pending. Applicants propose amendment of claim 9 for further clarity. Entry of these amendments after final rejection is earnestly solicited.

As a preliminary matter, a Form PTO/SB/80 and Statement under 37 CFR §3.73(b) are filed currently herewith.

Claims 9-17 were rejected under 35 USC §102(e) as being anticipated by Matthews et al. (US 2004/0187870). This rejection is respectfully traversed.

Matthews et al. describes an air assistance apparatus to provide the patient with air. The apparatus comprises detection means (46, 48) for detecting the patient's breathing parameters, a control unit 106 to adjust the delivered pressure, a ramp module 118 (paragraph [0080]) and comparators, for example 140/142, which are able to determine whether an event is occurring in patient's breathing from the parameters it receives from the detection means (paragraph [0094]).

Contrary to the assertions set forth in the Office Action, Matthews et al. does not teach that the ramp module 118 is connected to the control unit 106 in order to provide said unit with a value of pressure. In fact, the ramp module 118 only receives instructions from the control unit 106 (see Fig. 2).

The Office Action asserts that Matthews et al. teaches:

(1) the comparator is connected to the ramp period module;

(2) the comparator is able to determine whether a snore is occurring during the ramp period, the comparator sends the data in respect of snore detection to the ramp period module; and

(3) according to these data, the ramp module provides the control unit with the value of pressure that will speed up with respect to time during this ramp period, so that the rise of pressure at patient's mask is accelerated within the same ramp period.

These assertions are respectfully traversed.

1-Comparator and ramp period module connection:

As shown in figure 2, the ramp module 118 is not connected to the comparator 140/142, the snore detection and monitoring modules, nor to any other detection or monitoring modules. The ramp module and other modules are directly connected to the control unit 106. The control unit 106 does not connect indirectly the ramp module to the detection modules or monitoring modules, but rules which of these modules will get control of the pressure delivery.

In fact, in the apparatus disclosed by Matthews et al., all the detection modules and monitoring modules and the ramp module are organized by layers set in a hierarchical order. Each control layer is competing for control of the pressure support system (paragraph [0069]). The control unit 106 gives control to the module which is the highest in the hierarchy.

2-Events data delivery to ramp module

According to this hierarchical structure, a module will loose control if a higher priority module requests it. A module will get control only if no higher priority module is operating or has made a control request (paragraphs [0072] and [0070]). Each controller operates in a unique fashion based on the type of event/condition being treated (paragraph [0072], last sentence). This means that the ramp control layer and the detection layers do not cooperate.

It is further stressed in paragraphs [0074] and [0075], that machine based control layers among which is the ramp module (priority (2)), take control of the system only according to the condition of the pressure system, or in other words according to manual inputs. The lower priority layers (priority 4 to 8) take control only according to a monitored condition of the patient. For example, the snore control layer which regulates the pressure according to the snores detected will operate only if the ramp control is not activated (see last sentence of paragraph [0079] and first sentence of paragraph [0095]).

Therefore, when the ramp is activated, any control request sent by any detection module (i.e., the snore detection module) is blocked by control unit 106 and is never transmitted to the ramp module.

3-Ramp modification in respect of event

Ramp module per se:

The ramp delivered by the ramp module according to Matthews et al. is a conventional pressure ramping technique (paragraph [0080]). The ramp duration can be time based or, as written in paragraph [0081], event based. However, in this part of the text, the term event based does not designate a detected event in the patient's breathing that occurs but the computation of a predetermined number of breathing cycles.

The ramp module 118 is not able to modify the ramping rise of pressure within one ramp period.

Please note that, during the ramp period, i.e., when the apparatus starts functioning the pressure applied to the patient rises progressively up to the pressure of treatment. Contrary to the apparatus of the invention claimed in claim 9, the apparatus of Matthews et al. does not teach that during the ramp period, data are sent to the comparator which determines if an event occurs and which during this ramp period, provides the control unit with a pressure value that will accelerate the rise of pressure at the patient's mask.

Raise in pressure generated by the snore detection module:

The snore layer increases the pressure of treatment when a snore is detected. This rise of pressure is of course not spontaneous and raises at a predetermined rate preferentially of 1 cmH2O (paragraph [0096]). The Examiner considers this as a ramp.

Applicants respectfully disagree. Although this rise in pressure is linear, this is not what one of ordinary skill in the art calls "ramp", which is in fact the reason why this rise in pressure is not called a "ramp" in Matthews et al. Ramps are rises in pressure that are applied to the delivered pressure when the apparatus starts in order to enable the patient to fall asleep. The rise of pressure operated by the snore controller does not operate at the start of the apparatus but during the duration of patient sleep.

Most of all, the Examiner considers that because this rise of pressure is enabled by the snore module, it is a ramp modified according to the event that occurs in the patients breathing. However, when looking more closely at the operation of this rise, it appears that this raise of pressure is constant and never modified.

It is clear that the snore module only begins a rise of pressure when a third snore is detected. Once the pressure has increased, there is a lockout interval of one minute (paragraphs [0094] to [0096]). The aim of this lockout is to prevent another pressure increase if another snore occurs. Otherwise this would cause the snore controller to increase the pressure (first sentence of paragraph [0097]). The lockout prevents numerous snores in a short interval from inducing a too high pressure of treatment while the body has not yet been submitted to the first increase. A new increase of pressure (and not a speed up of an operating rise in pressure) will appear in respect of additional snores only if the lockout interval has elapsed (see the second sentence of paragraph [0097]). This means that the snore module will only generate linear rises in pressure that can not be modified during one single raise of pressure. It can only generate

several raises in pressure of same raising rates separated by time intervals where no increase is observed that is to say wherein pressure is constant.

4-Comparison with the present application:

Thus, contrary to the Examiner's opinion, in the apparatus disclosed by Matthews et. al.:

(1) the ramp module is not connected to the comparator;

(2) the comparator is not able to send the data in respect of events that occur in the patient's breathing to the ramp module; and

(3) the ramp module is not able to speed up the rise in pressure according to the event that occurs in patient's breathing.

In contrast, in the present invention:

- the ramp module is connected to the comparator,
- the ramp module receives data from the comparator,
- the ramp module is therefore able to speed up the rise of pressure at the patient's mask during the ramp period according to the event that occurred within this same ramp period.

Accordingly, claim 9, which covers these features, is not anticipated or suggested by Matthews et al.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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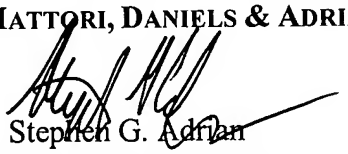

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Attachments: Form PTO/SB/80
Statement under 37 CFR §3.73(b)